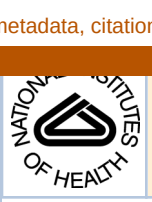

Published in final edited form as:

Obes Surg. 2009 October ; 19(10): 1377–1383. doi:10.1007/s11695-008-9573-0.

Explanations for Unsuccessful Weight Loss Among Bariatric Surgery Candidates

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Abstract

Background—Our objective was to analyze subjective explanations for unsuccessful weight loss among bariatric surgery candidates.

Methods—This was a retrospective analysis of 909 bariatric surgery candidates (78.2% female, average body mass index [BMI] 47.3) at a university center from 2001 to April 2007 who answered an open-ended question about why they were unable to lose weight. We generated a coding scheme for answers to the question and established inter-rater reliability of the coding process. Associations with demographic parameters and initial BMI were tested.

Results—The most common categories of answers were nonspecific explanations related to diet (25.3%), physical activity (21.0%), or motivation (19.7%), followed by diet-related motivation (12.7%) and medical conditions or medications affecting physical activity (12.7%). Categories related to time, financial cost, social support, physical environment, and knowledge occurred in

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less than 4% each. Men were more likely than women to cite a medical condition or medication affecting physical activity (19.2% vs 10.8%, *P*=0.002, odds ratio [OR]=1.96, 95% confidence interval [CI]=1.28–2.99) but less likely to cite diet-related motivation (7.1% vs 14.2%, *P*=0.008, OR=0.46, 95% CI=0.26–0.82).

Conclusions—Our findings suggest that addressing diet, physical activity, and motivation in a comprehensive approach would meet the stated needs of obese patients. Raising patient awareness of under-recognized barriers to weight loss, such as the physical environment and lack of social support, should also be considered. Lastly, anticipating gender-specific attributions may facilitate tailoring of interventions.

Keywords

Morbid obesity; Bariatric surgery; Barriers

Introduction

Bariatric surgery is effective for weight loss and treatment of obesity-related complications [1–4]. However, fewer than 1% of clinically eligible adults undergo bariatric procedures [5]. With more than one third of US adults now obese [6], it is imperative not only to broaden access to and optimize surgical treatment of obesity but also to intervene earlier in the progression of obesity. Since patients and clinicians often disagree on the causes of obesity [7–9], it is important for clinicians to understand the perspectives of individuals who are sufficiently obese to seek bariatric surgery.

Self-reported explanations for unsuccessful weight loss among bariatric candidates may reveal targets for earlier intervention. Since one of the eligibility criteria for bariatric surgery is a history of failure at behavioral self-management [1], many bariatric surgery candidates will present with self-regulatory deficits that may continue after surgery without intervention. Therefore, self-reported reasons for unsuccessful weight loss may also shed light on aspects of counseling that need to be emphasized in a bariatric surgery practice.

Studies in other populations have explored subjective explanations for unsuccessful weight loss [7,10–14], but the topic has not been formally addressed among individuals seeking bariatric surgery. We utilized a combined qualitative and quantitative approach to analyze subjective explanations for unsuccessful weight loss among seekers of bariatric surgery. We also measured demographic and clinical correlates of those explanations.

Research Methods and Procedures

This was a retrospective analysis of a database of patients seen at the University of Texas Medical School at Houston Bariatric Surgery Center from 2001 to April 2007. The outcome variable was self-reported explanation(s) for unsuccessful weight loss as indicated by response to the open-ended question, “How do you personally account for why you have not been able to lose weight?” This item was on the questionnaire that patients completed prior to the initial consultation with the surgeon. Most patients filled out the questionnaires online so that the database was populated automatically. Responses on paper were typed verbatim into the database by the clinic nurse so that no modification of responses occurred before our investigation. We downloaded the responses and demographic data from the online clinical database into our research database.

We employed the qualitative data analysis method endorsed by the Centers for Disease Control and Prevention to code the responses [15]. We identified categories a priori from studies describing subjective explanations for obesity [7,10–14], as well as from our clinical

experience. We identified additional relevant categories by reviewing three sets of randomly selected responses consisting of 5%, 10%, and 15% of the total sample, respectively. Thematic saturation was reached, as there were no new categories identified in the third sample. The final coding scheme had 25 categories in addition to an "other" category for responses that did not address the original question or were nonsensical.

Two investigators (Childs and Hwang) independently coded a 15% (137) random sample to gauge inter-rater reliability of the coding process. We calculated percent agreement, Cohen's kappa, and prevalence and bias adjusted kappa (PABAK) as previously described [16,17]. Percent agreement (mean±standard deviation [SD]) for all categories was 0.99±0.02 (range 0.91 to 1), kappa was 0.83±0.16 (range 0.46 to 1), and PABAK was 0.97±0.05 (range 0.82 to 1). Kappa was not determined for 12 categories due to zero variability in one or both rater's assessments, occurring when the percent agreement was 0.99 or 1. Since inter-rater reliability was excellent with this coding scheme, one investigator (Childs) coded the entire data set, blinded to predictor variables. Responses were evaluated for the presence or absence of each category (dichotomous outcomes). Each response could fit into one or more categories. We also aggregated the individual categories into nine combined categories according to common themes. For example, the combined category related to time was defined as any response related to time for dieting, time for physical activity, or nonspecific response related to time.

Predictor variables included gender, age (<35, 35–44, 45–54, and ≥55 years), race/ethnicity (Caucasian, African American, Hispanic, and other), and initial body mass index (BMI; less than median and greater than or equal to median). We compared responders with nonresponders with respect to the predictor variables using Pearson chi-square test for independence (χ^2) with two-sided $\alpha<0.05$. We analyzed associations between predictor variables and the five most common explanations for unsuccessful weight loss using χ^2or Fisher's exact test. Since we tested many associations between predictor variables and explanations for unsuccessful weight loss, we used two-sided $\alpha<0.01$. Data are presented as mean±SD for continuous variables and frequencies for categorical variables. Statistical analyses were performed with SPSS 14.0 for Windows XP (SPSS, Chicago, IL, USA) and the DAG_Stat software [18]. The study was approved by the Committee for the Protection of Human Subjects at the University of Texas Health Science Center at Houston.

Results

Of 1,927 bariatric surgery candidates, 47% (909) responded to the question, "How do you personally account for why you have not been able to lose weight?" Responders and nonresponders did not differ significantly in age or gender, but responders had lower mean BMI (47.3±8.8 vs 48.5±10.1, *P*=0.007), and fewer respondents were African American (21.9% vs 26.5%, *P*=0.041).

The 909 responders had a mean age of 44.8±12.3 years, and 711 (78.2%) were female. Of 803 patients who specified their race/ethnicity, 485 (60.4%) were Caucasian, 176 (21.9%) were African American, 112 (13.9%) were Hispanic, and 30 (3.7%) were other.

Most bariatric surgery candidates gave one (54.7%) or two (27%) explanations for unsuccessful weight loss. Prevalence and definitions of categories are listed in Table 1. The most common individual categories were nonspecific explanations related to diet (25.3%), physical activity (21.0%), and motivation/self-control/will power (19.7%). The categories of diet-related motivation/self-control/will power (12.7%) and medical conditions or medications affecting physical activity (12.7%) were the only other categories with prevalence greater than 10%. Examples of these responses are listed in Table 2. Individual

categories related to time, financial cost, social support, physical environment, and knowledge occurred less than 4% each. The combined categories followed a similar pattern, with any diet explanation (38.9%), any physical activity explanation (35.9%), and any motivation explanation (33.1%) the most common.

Men were more likely than women to cite a medical condition or medication affecting physical activity (19.2% vs 10.8%, χ^2=9.8, *P*=0.002, odds ratio [OR]=1.96, 95% confidence interval [CI]=1.28–2.99) but less likely to cite diet-related motivation/self-control/will power (7.1% vs 14.2%, χ^2=7.13, *P*=0.008, OR=0.46, 95% CI=0.26–0.82). Analyses with combined categories yielded similar results. Men were more likely than women to give explanations related to a medical condition or medication (26.3% vs 17.6%, χ^2=7.4, *P*=0.006, OR=1.67, 95% CI=1.52–2.42), but less likely to cite diet-related explanations (29.3% vs 41.6%, χ^2=9.9, *P*=0.002, OR=0.58, 95% CI=0.41–0.82). Men and women gave the same mean number of explanations (1.2±0.7 vs 1.3±0.8, *P*=0.06).

Age was not consistently related to the explanations for unsuccessful weight loss. There were no associations between any of the five most common individual explanations with BMI (less than or greater than or equal to the median of 46) or ethnicity.

Discussion

When asked to explain their inability to lose weight, bariatric surgery candidates most frequently cited nonspecific reasons related to diet, physical activity, and motivation/self-control/will power. They rarely cited time, financial cost, social support, physical environment, or knowledge as factors. Men gave explanations related to medical conditions or medications more often than women, but women were more likely to give explanations related to diet.

The main strength of the study is that we analyzed a large sample with a combined qualitative and quantitative approach. Our findings present the perspective of individuals who have had the greatest difficulty in losing weight.

The study was limited by the retrospective, single-center design. Another limitation is that the two most common explanations for unsuccessful weight loss were nonspecific statements related to diet and physical activity without further elaboration. We cannot determine if the respondents were unaware of reasons for dietary or physical activity difficulties or if they simply did not mention them. An additional limitation is the moderate response rate. Differences between responders and nonresponders in BMI and race/ethnicity were statistically significant but of unknown clinical significance.

Other analyses of bariatric surgery candidates have focused on psychosocial and behavioral characteristics to predict postoperative outcomes. A common area of investigation is the control of eating behavior. Many bariatric surgery candidates have high levels of hunger and low levels of dietary restraint [19]. The prevalence of specific eating disorders, such as binge eating disorder and nighttime eating syndrome, ranges from 10% to 50% [19,20]. These constructs may be related to our category of motivation/self-control/will power, but prior studies reported prevalence, rather than whether patients thought these factors contributed to their obesity. Many individuals seeking bariatric surgery also have psychiatric conditions such as depression and anxiety, but it is unclear whether these disorders cause or are caused by obesity [19,20]. We have no reason to believe that the prevalence of psychiatric problems in our subjects was different than in other samples, but our subjects rarely (2.9%) cited psychiatric disorders to explain their inability to lose weight.

Subjective barriers to weight loss have been reported for other populations. In focus groups, obese African-American women cited ethnic and cultural norms, influence of close family members, food cravings, as well as lack of time, resources, self-control, and social support [11,14], obese Caucasian women reported depression and lack of commitment to diet [11], and overweight men discussed inadequate motivation and negative perception of dieting [12]. In a national survey of US adults, barriers to weight loss included inadequate energy (65%), will power (56%), time (44%), and social support (38%) for exercise, as well as high cost of healthy food (49%), preference for junk food (48%), and eating out (40%) [13]. Patients at a Veteran's Administration clinic believed that excess weight was caused by easy access to fattening foods (73%) and medical conditions (70%) [7]. Differences in prevalence of weight loss barriers are likely due to different study samples and designs.

By the time obese individuals seek bariatric surgery, they are unlikely to lose significant weight with behavioral changes alone [21]. However, our findings can suggest targets for earlier intervention. The first target is a redistribution of responsibility. Our subjects cited difficulties with diet, physical activity, and motivation/self-control/will power in comparable proportions, such that clinicians focusing on any single element to the exclusion of others will not meet the stated needs of a significant portion of their obese patients. This reinforces current recommendations that clinicians offer a comprehensive approach to obesity treatment, rather than focus on any single issue with which they are most comfortable [1,22]. Given that primary care providers typically lack the time and skills to provide comprehensive obesity management [23–26], a division of labor is needed in which specialized personnel (e.g., dietitians, fitness professionals, health counselors) provide behavioral weight loss services as part of a comprehensive program [27–29]. Implementing this model of care would require shifting focus from training primary care providers to become weight loss counselors to incorporating specialized weight loss counselors into the primary care team [30–32]. It also follows that the same comprehensive approach should be offered to patients after bariatric surgery.

The second potential target for earlier intervention is that which our subjects *did not* mention. They rarely cited the physical environment or social support as factors in their inability to lose weight. Yet, the wide availability of high-calorie foods and surroundings that discourage physical activity create an obesogenic environment [33–35]. Specific aspects of the physical environment associated with obesity include suburban location (vs urban), disorderly surroundings (e.g., litter, graffiti, vandalism), lack of destinations within a 10-min walk from home, lack of interesting things to look at, and limited access to physical activity or recreational facilities [36,37]. Interpersonal relationships within social networks can also impact body weight. Findings from a 32-year cohort study provide compelling evidence for the spread of obesity through social networks, possibly mediated by the adoption of norms for body weight and behavior [38]. Conversely, access to purposeful social support is directly correlated with the ability to lose weight and maintain weight loss [1,39–42]. It is unlikely that our subjects were immune to the influence of the physical and social environment. An alternative hypothesis is that they did not recognize the effect of these factors. To test this hypothesis, future studies could explicitly ask obese individuals how they perceive the influence of the built environment and social networks on their body weight. The research agenda can be extended to evaluate whether obese individuals can be taught to identify and actively resist harmful environmental and social influences and whether such efforts will facilitate weight loss.

Lastly, our results suggest that clinicians should anticipate gender differences when discussing weight loss with patients. Men were more likely than women to explain unsuccessful weight loss by citing medical conditions that affect physical activity (e.g., arthritis), but women were more likely than men to cite diet-related explanations. In other

studies, women were more likely than men to report cravings for sweets [43] and difficulty in controlling eating habits [44] and to attribute being overweight to overeating [45]. Among bariatric surgery candidates, women are more likely to have attempted weight loss through dietary modification [21]. Anticipating gender differences in how patients view their weight problem might guide the assessment process and facilitate treatment tailoring.

In this study, we sought to understand how bariatric surgery candidates explained their inability to lose weight. Our results suggest that clinicians, with or without the help of specialized personnel, should offer a comprehensive approach to address the stated needs of obese patients, raise awareness among patients about the pervasive yet under-recognized impact of the physical environment and social interactions on body weight, and anticipate gender differences in how patients view their weight problem. Further study is needed to specifically test these exploratory findings.

Abbreviations

PABAK	Prevalence and bias adjusted kappa
BMI	Body mass index

Acknowledgments

This research was supported in part by a Clinical Investigator Award from The University of Texas Health Science Center at Houston Center for Clinical Research and Evidence Based Medicine, NIDDK Short-Term Research Training Grant 5T 35 DK007675-15, HRSA Bureau of Health Professions Grant D55HP00045, NLM grant 5 K22 LM008306 to E.V.B, and NIH/NCRR (1 UL1 RR 024148).

References

1. NHLBI. Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults. Bethesda, MD: NIH; 1998 September. NHLBI obesity education initiative expert panel on the identification, evaluation, and treatment of overweight and obesity in adults. NIH publication no. 98-4083
2. Snow V, Barry P, Fitterman N, et al. Pharmacologic and surgical management of obesity in primary care: a clinical practice guideline from the American College of Physicians. Ann Intern Med. 2005; 142:525–531. [PubMed: 15809464]
3. Maggard MA, Shugarman LR, Suttorp M, et al. Meta-analysis: surgical treatment of obesity. Ann Intern Med. 2005; 142(7):547–559. [PubMed: 15809466]
4. Dixon JB, O'Brien PE, Playfair J, et al. Adjustable gastric banding and conventional therapy for type 2 diabetes: a randomized controlled trial. JAMA. 2008; 299(3):316–323. [PubMed: 18212316]
5. Encinosa WE, Bernard DM, Steiner CA, et al. Use and costs of bariatric surgery and prescription weight-loss medications. Health Aff. 2005; 24(4):1039–1046.
6. Ogden, CL.; Carrol, MD.; McDowell, MA., et al. NCHS data brief no 1. Hyattsville, MD: National Center for Health Statistics; 2007. Obesity among adults in the United States—no change since 2003–2004.
7. Ruelaz A, Diefenbach P, Simon B, et al. Perceived barriers to weight management in primary care —perspectives of patients and providers. J Gen Intern Med. 2007; 22(4):518–522. [PubMed: 17372803]
8. Befort CA, len Greiner K, Hall S, et al. Weight-related perceptions among patients and physicians: how well do physicians judge patients' motivation to lose weight? J Gen Intern Med. 2006; 21(10): 1086–1090. [PubMed: 16970557]
9. Ogden J, Bandara I, Cohen H, et al. General practitioners' and patients' models of obesity: whose problem is it? Patient Educ Couns. 2001; 44(3):227–233. [PubMed: 11553423]

10. Andajani-Sutjahjo S, Ball K, Warren N, et al. Perceived personal, social and environmental barriers to weight maintenance among young women: a community survey. Int J Behav Nutr Phys Act. 2004; 1(1):15. [PubMed: 15462679]
11. Blixen CE, Singh A, Thacker H. Values and beliefs about obesity and weight reduction among African American and Caucasian women. J Transcult Nurs. 2006; 17(3):290–297. [PubMed: 16757669]
12. Sabinsky MS, Toft U, Raben A, et al. Overweight men's motivations and perceived barriers towards weight loss. Eur J Clin Nutr. 2007; 61(4):526–531. [PubMed: 16988645]
13. Kruger J, Blanck H, Gillespie C. Dietary and physical activity behaviors among adults successful at weight loss maintenance. Int J Behav Nutr Phys Act. 2006; 3(1):17. [PubMed: 16854220]
14. Lynch C, Chang J, Ford A, et al. Obese African-American women' perspectives on weight loss and bariatric surgery. J Gen Intern Med. 2007; 22(7):908–914. [PubMed: 17447097]
15. MacQueen KM, McLelland E, Kay K, et al. Codebook development for team-based qualitative research. Cult Anthropol Methods. 1998; 10(2):31–36.
16. Bernstam EV, Sagaram S, Walji M, et al. Usability of quality measures for online health information: can commonly used technical quality criteria be reliably assessed? Int J Med Inform. 2005; 74(7–8):675–683. [PubMed: 16043090]
17. Byrt T, Bishop J, Carlin JB. Bias, prevalence and kappa. J Clin Epidemiol. 1993; 46(5):423–429. [PubMed: 8501467]
18. Mackinnon A. A spreadsheet for the calculation of comprehensive statistics for the assessment of diagnostic tests and inter-rater agreement. Computer Biol Med. 2000; 30(3):127–134.
19. Sarwer DB, Wadden TA, Fabricatore AN. Psychosocial and behavioral aspects of bariatric surgery. Obes Res. 2005; 13(4):639–648. [PubMed: 15897471]
20. Wadden TA, Sarwer DB, Fabricatore AN, et al. Psychosocial and behavioral status of patients undergoing bariatric surgery: what to expect before and after surgery. Med Clin N Am. 2007; 91(3):451–469. [PubMed: 17509389]
21. Gibbons LM, Sarwer DB, Crerand CE, et al. Previous weight loss experiences of bariatric surgery candidates: how much have patients dieted prior to surgery? Obes Res. 2006; 14 Suppl 2:70S–76S.
22. US Preventive Services Task Force. Screening for obesity in adults: recommendations and rationale. Ann Intern Med. 2003; 139:930–932. [PubMed: 14644896]
23. Park ER, Wolfe TJ, Gokhale M, et al. Perceived preparedness to provide preventive counseling: reports of graduating primary care residents at academic health centers. J Gen Intern Med. 2005; 20:386–391. [PubMed: 15963158]
24. Yarnall KSH, Pollak KI, Ostbye T, et al. Primary care: is there enough time for prevention? Am J Public Health. 2003; 93:635–641. [PubMed: 12660210]
25. Huang J, Yu H, Marin E, et al. Physicians' weight loss counseling in two public hospital primary care clinics. Acad Med. 2004; 79(2):156–161. [PubMed: 14744717]
26. Jackson JE, Doescher MP, Saver BG, et al. Trends in professional advice to lose weight among obese adults, 1994 to 2000. J Gen Intern Med. 2005; 20:814–818. [PubMed: 16117748]
27. Goldstein MG, Whitlock EP, DePue J. Multiple behavioral risk factor interventions in primary care: summary of research evidence. Am J Prev Med. 2004; 27 2 Suppl 1:61–79. [PubMed: 15275675]
28. Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness. JAMA. 2002; 288(14):1775–1779. [PubMed: 12365965]
29. Cifuentes M, Green LA. Obesity trial: knowledge without systems. BMJ. 2004; 328(7438):E272–E274. [PubMed: 14988215]
30. Willaing I, Ladelund S, Jørgensen T, et al. Nutritional counselling in primary health care: a randomized comparison of an intervention by general practitioner or dietician. Eur J Cardiovasc Prevent Rehab. 200; 11:513–520.
31. Tulloch H, Fortier M, Hogg W. Physical activity counseling in primary care: who has and who should be counseling? Patient Educ Couns. 2006; 64:6–20. [PubMed: 16472959]
32. Frank A. A multidisciplinary approach to obesity management: the physician's role and team care alternatives. J Amer Dietetic Assoc. 1998; 98 10 Suppl 1:S44–S48.

33. Glass TA, McAtee MJ. Behavioral science at the crossroads in public health: extending horizons, envisioning the future. Soc Sci Med. 2006; 62(7):1650–1671. [PubMed: 16198467]
34. Faith MS, Fontaine KR, Baskin ML, et al. Toward the reduction of population obesity: macrolevel environmental approaches to the problems of food, eating, and obesity. Psychol Bull. 2007; 133(2):205–226. [PubMed: 17338597]
35. Booth KM, Pinkston MM, Poston WSC. Obesity and the built environment. J Am Diet Assoc. 2005; 105 5 Suppl 1:110–117. [PubMed: 15635355]
36. Poortinga W. Perceptions of the environment, physical activity, and obesity. Soc Sci Med. 2006; 63(11):2835–2846. [PubMed: 16952415]
37. Boehmer TK, Hoehner CM, Deshpande AD, et al. Perceived and observed neighborhood indicators of obesity among urban adults. Int J Obes. 2007; 31(6):968–977.
38. Christakis NA, Fowler JH. The spread of obesity in a large social network over 32 years. New Engl J Med. 2007; 357(4):370–379. [PubMed: 17652652]
39. Elfhag K, Rossner S. Who succeeds in maintaining weight loss? A conceptual review of factors associated with weight loss maintenance and weight regain. Obes Rev. 2005; 6(1):67–85. [PubMed: 15655039]
40. Verheijden MW, Bakx JC, van Weel C, et al. Role of social support in lifestyle-focused weight management interventions. Eur J Clin Nutr. 2005; 59(S1):S179–S186. [PubMed: 16052189]
41. Gallagher KI, Jakicic JM, Napolitano MA, et al. Psychosocial factors related to physical activity and weight loss in overweight women. Med Sci Sports Exerc. 2006; 38:971–980. [PubMed: 16672853]
42. Wing RR, Jeffery RW. Benefits of recruiting participants with friends and increasing social support for weight loss and maintenance. J Consult Clin Psychol. 1999; 67:132–138. [PubMed: 10028217]
43. Osman JL, Sobal J. Chocolate cravings in American and Spanish individuals: biological and cultural influences. Appetite. 2006; 47(3):290–301. [PubMed: 16831486]
44. Greeno CG, Jackson C, Williams EL, et al. The effect of perceived control over eating on the life satisfaction of women and men: results from a community sample. Int J Eat Disord. 1998; 24(4): 415–419. [PubMed: 9813766]
45. Tiggemann M, Rothblum ED. Gender differences in social consequences of perceived overweight in the United States and Australia. Sex Roles. 1988; 18:75–86.

Table 1

Frequencies of responses to the open-ended question asking bariatric surgery seekers (N=909) why they have not been able to lose weight

	Category	Definition	n (%)[a]
Individual categories			
1	Diet, non-specific	Diet or food issues without further explanation	230 (25.3)
2	Physical activity, non-specific	Physical activity issues without further explanation	191 (21.0)
3	Motivation / self control / will power, non-specific	Inadequate motivation, self-control, or will power, without further explanation	179 (19.7)
4	Motivation / self control / will power for diet	Inadequate motivation, self-control, or will power to make dietary changes	115 (12.7)
5	Medical condition or medication affecting physical activity	Medical condition or medication which interferes with ability or desire to be physically active	115 (12.7)
6	Medical condition or medication not affecting physical activity	Medical condition or medication which directly causes weight gain or prevents weight loss; or that which is not related to physical activity	71 (7.8)
7	Genetics or metabolic rate	Genetic or inherited factors which make it hard to lose weight; or low metabolic rate	69 (7.6)
8	General stress	Stress from daily circumstances	44 (4.8)
9	Time, non-specific	Inadequate time, without further explanation	28 (3.1)
10	Psychiatric condition	Clinically-defined psychiatric conditions, such as depression, anxiety disorder, schizophrenia, or psychosis	26 (2.9)
11	Time for physical activity	Inadequate time to be physically active	14 (1.5)
12	Motivation / self control / will power for physical activity	Inadequate motivation, self-control, or will power to be physically active	12 (1.3)
13	Social support, non-specific	Inadequate peer social support for weight loss, without further explanation	12 (1.3)
14	Physical environment related to food	Physical environment related to food which makes it hard to lose weight	10 (1.1)
15	Knowledge, non-specific	Inadequate knowledge, without further explanation	7 (0.8)
16	Time for diet	Inadequate time to make healthy food choices, or to buy or prepare healthy food	6 (0.7)
17	Physical environment, non-specific	Physical environment makes it hard to lose weight, without further explanation	2 (0.2)
18	Knowledge about diet	Inadequate knowledge about how to diet	2 (0.2)
19	Financial cost of diet or healthy food	Insufficient money to buy healthy food	1 (0.1)
20	Financial cost, non-specific	Insufficient money, without further explanation	1 (0.1)
21	Physical environment related to physical activity	Physical environment related to physical activity makes it hard to lose weight	1 (0.1)
22	Financial cost of physical activity resources	Insufficient money to access physical activity resources	0
23	Social support for dieting or eating healthy	Inadequate peer social support for dieting or eating healthy	0
24	Social support for physical activity	Inadequate peer social support for physical activity	0
25	Knowledge about physical activity	Inadequate knowledge about how to increase physical activity	0
Combined categories[b]			
	Any diet	Categories 1, 4, 14, 16, 18, 19, or 23	354 (38.9)
	Any physical activity	Categories 2, 5, 11, 12, 21, 22, 24, or 25	326 (35.9)
	Any motivation / self control /	Categories 3, 4, or 12	301 (33.1)

Category	Definition	n (%)[a]
or will power		
Any medical / biological	Categories 5, 6, 7, or 10	258 (28.4)
Any time	Categories 9, 11, or 16	47 (5.2)
Any physical environment	Categories 14, 17, or 21	13 (1.4)
Any social support	Categories 13, 23, or 24	12 (1.3)
Any knowledge	Categories 15, 18, or 25	9 (1.0)
Any financial cost	Categories 19, 20, or 22	2 (0.2)

[a] Sum of percentages > 100% because each person could give more than 1 response

[b] Each combined category represents the number of respondents who gave at least 1 response in the corresponding set of individual categories.

This number can be less than total number of responses since multiple responses were possible.

Table 2

Examples of explanations for unsuccessful weight loss in the five most common individual categories

Individual category	Example
Diet, not otherwise specified	"not watching food intake"
	"love to eat Mexican food"
	"love to eat too much, love all foods"
Physical activity, not otherwise specified	I haven't been able to get a regular workout routine"
	"inactivity"
	"lack of physical activity"
Motivation, self control, or will power, not otherwise specified	"no will power"
	"always give up on myself"
	"not good self control"
Motivation, self control, or will power related to diet	"Unable to maintain the diet. I get bored with the food choices"
	"I get tired of dieting, and than discouraged, and so I stop trying"
	"bored with sticking to a diet, lack of willpower when it comes to food"
Medical condition / medications affecting physical activity	"unable to exercise because of back problems"
	"I had to have back surgery after pregnancy"
	"lymphedema in legs makes exercise difficult & painful"